REMARKS

A final Office Action was mailed on January 15, 2004. Claims 1 – 18 are currently pending in the application. With this response, Applicants amend claims 1 and 7 - 9. No new matter is introduced. Support for the amendments may be found, for example in Applicants' specification at page 7, line 12 through page 8, line 2 of Applicants' specification.

REJECTION UNDER 35 U.S.C. §§ 102, 103

Claims 1, 2, 7 – 10, 13 and 16 are rejected under 35 U.S.C. § 102(b) as being anticipated by "Image Precision Silhouette Edges" (to Raskar et al.). Claims 3, 11, 14 and 17 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Raskar in view of "Stylized Rendering Techniques For Scalable Real-Time 3D Animation (to Lake et al.). Claims 4 – 6, 12, 15 and 18 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Raskar in view of Lake and U.S. Patent No. 6,361,438 to Morihira. Applicants amend claims 1 and 7 – 9 to further clarify the nature of their invention, and respectfully traverse these rejections.

Raskar discloses a method for generating silhouette edges of a polygon (see, e.g., page 136, section 3., page 137, sections 3.2, 3.3 of Raskar). In the method of Raskar, a back-visible surface is projected in a direction N_B normal to the back visible surface (see Figure 2 of Raskar). Edges of the projected surface are then extended and rendered in black in order to create a silhouette (see Figure 4 of Raskar).

Lake is introduced for teaching reducing the width of a silhouette with increasing distance of a surface from a viewpoint. Morihira is introduced as teaching diminished color variation of the silhouette from front-facing surfaces with increasing distance of a surface from a viewpoint.

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In independent claims 1 and 7 – 9, Applicants disclose a system, method, storage medium and computer program for executing the processes of: a) judging a direction of a polygon constituting a three dimensional model, in relation to a viewpoint, and b) shifting vertices of a first polygon that face a back side in relation to the viewpoint, in a direction of a normal, generating a second polygon by connecting said vertices thus shifted, and painting said second polygon with a color that is darker than a color of said first polygon.

Notably, Applicants disclosed method generates its second polygon by <u>shifting vertices</u> of one or more back facing sides of the first polygon in three dimensional space. Each vertex is shifted in a <u>normal direction,</u> determined as an <u>average of normals for each of a plurality of surfaces of the first polygon that abuts the vertex</u> (see, e.g., page 7, lines 27, 28 of Applicants' invention). The second polygon is then generated by interconnecting these shifted vertices.

Applicants' approach lies in sharp contrast to the approach disclosed by Raskar, in which each backward facing polygon surface is shifted in a normal direction as defined for <u>the surface.</u> By instead shifting each polygon vertex in a normal direction determined as the average of normals for each surface abutting the vertex, Applicants' approach eliminates a need for the second step disclosed by Raskar that <u>extends edges of the shifted surface</u> shifted in the normal direction in order to create a silhouette. By shifting the vertices in the manner claimed by Applicants, extended and shifted surfaces of the second polygon are effectively and more efficiently produced in a single step. Neither Lake nor Morihira disclose or otherwise suggest Applicants' claimed approach.

As a result Applicants respectfully submit that independent claims 1 and 7 – 9 are not anticipated by Raskar, and are therefore allowable. As claims 2 - 6 and 10 – 18 depend from
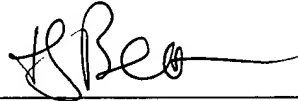
allowable claims 1 and 7 - 9, Applicants further submit that claims 2 - 6 and 10 – 18 are allowable for at least this reason.

CONCLUSION

An earnest effort has been made to be fully responsive to the Examiner's objections. In view of the above amendments and remarks, it is believed that claims 1 – 18, consisting of independent claims independent claims 1 and 7 - 9, and the claims depending therefrom, are in condition for allowance. Passage of this case to allowance is earnestly solicited. However, if for any reason the Examiner should consider this application not to be in condition for allowance, he is respectfully requested to telephone the undersigned attorney at the number listed below prior to issuing a further Action.

Any fee due with this paper may be charged on Deposit Account 50-1290.

Respectfully submitted,

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